INSTRUCTION MANUAL

Distributed by

Audiogenic Ltd
PO Box 88
Reading
Berks.

PLEASE FIND BELOW ERRORS/OMISSIONS WITHIN THIS MANUAL

PAGE 19 CENTERING TEXT
=
PLACING THIS CONTROL ANYWHERE IN A LINE WILL CAUSE THE TEXT IN THAT LINE TO BE CENTERED.

PAGE 24 CBM?c CBM?a
CBM?d
(PLEASE NOTE ADDED QUESTION MARKS)

PAGE 25 Name: CBM?c CBM?a First name: CBM?b
Address:
CBM?d
Telephone: CBM?e
Date joined: CBM?f
(PLEASE NOTE ADDED QUESTION MARKS)

PAGE 27 v, filename ..... verify tape document-filename optional

*, diskname,id ..... format a disk with name and identifier

PLEASE NOTE THAT THE PRINTER PAPER SIZE IS SET AT 11" AND NOT A4 IN ORDER TO CONFORM WITH COMPUTER STATIONERY SIZES.

We would like to thank TYPECRAFT Systems Ltd and Commercial Graphics Ltd for their assistance in the production of this manual.

More information about the TYPECRAFT keyboard system may be obtained from:

TYPECRAFT Systems (Derby) Limited,
The Uplands,
145 Manor Road,
Littleover,
DERBY
England

WORDCRAFT 20 INSTRUCTION MANUAL

CONTENTS

Introduction 5

What is wordprocessing?
What new skills are required?
A screen based word processor?
Where is the text?
What is justification?
What is "direct mailing"?

Hardware required & installation

The cartridge 7
The disk unit 7
The cassette unit 7
The printer 7

Getting started

The start up screen 8
Moving the screen image 8
Selecting printer attributes 8
Selecting storage device 9
Exiting to BASIC 9
Starting WORDCRAFT 9

The WORDCRAFT screen

Screen layout 10
Page, line & column counts 10
Unused memory 10
Line 3 10
Changing screen colours 10
Screen width 11

Your first document

TYPE mode 12
Entering text 12
Correcting a mistake 12
Cursor movement 12
Deletions 12
Insertions 13
Top and bottom of page 13
Starting a new line 13
Starting a new page 13
COMMAND mode 13
Printing the document 13
Saving the document 14
Starting a new document 14
Loading a document 14

WORDCRAFT commands

Starting a new document 15
Saving a document 15
Replacing a document 15
Loading a document 15
The disk directory 15
Validating a disk 15
Changing storage devices 16
Setting the screen width 16
Setting the page length 16
Keyboard beeper control 16
Printing a document 16
Physical page length 17
Justifying text 17
"Filling" a document 17
Merging pages 17

WORDCRAFT controls

The Commodore key 18
Starting a new line 18
Skipping lines 18
Starting a new page 18
Deleting words 18
Deleting lines 18
Deleting blocks 18
Inserting blocks 19
Moving blocks 19
Reproducing blocks 19
Centering text 19
Setting margins 19
Setting tab stops 19
Using normal tabs 20
Using decimal tabs 20
Indentation 20
Highlighting text 20
Non printing text 20
Soft hyphens 21
Search and exchange 21
Fill points 21
Deleting unwanted controls 22
Moving between pages 22
Scrolling the screen 22

The function keys

F1 Delete word 23
F2 Delete line 23
F3 Insert on 23
F4 Insert off 23
F5 Normal tab 23
F6 Decimal tab 23
F7 New line 23
F8 New page 23

Fill documents

An address file 24
The empty document 24

Standard documents

Standard paragraphs 26
The "skeleton" document 26

Appendix A

Commands & controls 27

Appendix B

Parallel printers 28
RS232C serial printers 29

Appendix C

Reading VIC files on CBMs 30

ADDITIONAL COMANDS

Formatting a new disk

Before a disk can be used on the VIC disk drive it has to be formatted. This process takes two or three minutes and prepares a new disk for use on the drive.

A disk can be formatted by using the command:

*,diskname,identifier

where the "diskname" can be any name up to 16 characters long and "identifier" is a unique two character identifier, eg "a1", "a2", "aa", "z9" etc.

You must never have two disks with the same identifier - write the identifier on the disk label so that you know which identifiers you have used.

The message:

CONFIRM FORMAT DISC; Y/N

will appear and you should press "y" to continue. Pressing "n" will prevent the format taking place. The formatting process will delete all text from a disk so be careful that you do not use it on a disk containing text that you wish to keep.

Verifying text saved on tape

Tape recorders may not always save text correctly. If you want to check that a document has been saved correctly then use the command:

v,filename

where "filename" is the name of the file containing the text you want checked. WORDCRAFT 20 will read the text from tape and compare it with the text in memory. If there is a difference between the two the message:

VERIFY ERROR

will appear and you should press SPACE to continue.

If you have just saved a document and you wish to verify it, you should first of all rewind the tape then use the command:

v

on its own. WORDCRAFT 20 will assume that you want to verify the last document name that you used.

NB The "v" command, when used with disk, does not do a verify but "validates" the disk - please see the "validate" command description.

INTRODUCTION

Congratulations on your choice of WORDCRAFT 20 as your wordprocessor for the VIC 20.

WORDCRAFT 20 is derived from the WORDCRAFT 80 word processing system that runs on the CBM range of business microcomputers – the 8032, 8096, 9000, and 4032 machines. WORDCRAFT 80 now has over 10,000 users throughout the world and has been in use for over three years so the system has been well tested and found to be of obvious use in all types of organisations, commerce, industry and education.

WORDCRAFT 20 includes a large number of the facilities available on WORDCRAFT 80 so after using WORDCRAFT 20 you will find it extremely easy to work with WORDCRAFT 80 should you get the chance. This makes WORDCRAFT 20 an ideal home wordprocessing system for those who are using WORDCRAFT 80 at their place of work.

The remaining chapters of this manual lead you through all the steps needed to type documents, print them and save them on tape or disk. Before proceeding, however, this chapter will answer some of the queries about wordprocessing in general and will explain some of the terms involved. Like all new subjects wordprocessing has its set of "buzz" words so you might as well understand them from the beginning!

What is wordprocessing?

The wordprocesssor can be thought of as replacing the electric typewriter - the main difference being that text entered from the keyboard appears on the screen rather than directly on paper. This gives rise to one of the biggest advantages of wordprocessing – text can be corrected and edited on the screen before being printed on paper – this results in a considerable saving of both time and paper.

What new skills are required?

Normal typewriting skills are required to use the keyboard (don't worry about this though, the author of this manual is a "two fingered" typist but still prefers to use the wordprocessor rather than work in long hand or on a conventional typewriter!).

In addition to having to find your way around the keyboard you will have to learn how to use a number of the extra facilities available with the word processor.

WORDCRAFT 20 has two main methods of controlling the text you enter, **commands** and **controls**. Commands are those facilities that effect the overall document that you are producing, for example the length of each page, the saving of the document on disk or tape, or printing of the document. Controls, on the other hand, deal with facilities that effect specific parts of the text, for example the centering of a line, the skipping of a number of blank lines, or setting and using tab stops.

A screen based wordprocessor?

WORDCRAFT 20 is a screen based wordprocessor. This means that the only thing shown on the screen is the text that you are entering or editing. Some wordprocessors show special controls on the screen as well as the text but WORDCRAFT 20 has been designed not to do this so that "what you see is what you get".

The screen can be thought of as a window that can be moved around your text. That is why WORDCRAFT 20 allows you to scroll the screen up, down and left, right. If you type text that is wider than the screen then the window will automatically follow you. This makes laying out a document extremely easy.

Where is the text?

The text you are entering is displayed on the screen and is stored in the computer's memory (the RAM to use the technical term). At any time you can choose to print out all or part of the text that is in memory or you can "save" it on tape or disk.

When you turn the computer off the contents of memory are lost. Documents that have been saved however can be brought back into the computer the next time you run WORDCRAFT 20. (Bringing back a document is known as "loading" it into memory).

A document that has been loaded into memory can be edited and eventually saved again to disk, either as a new document with a different name or as a replacement for the original. All documents have names so that you can identify each piece of text that you write. If you are using a disk system then WORDCRAFT 20 will list the disk directory for you – this shows the contents of the disk so that you can quickly see which documents are on each disk.

What is justification?

Justification is the printing of text with a straight right hand edge as well as a straight left hand edge. Sometimes this looks neater than having a ragged right hand edge. Most of this manual has been typeset with the text right justified – this paragraph is the exception so that you can see the difference.

A letter is best printed with a ragged right hand edge as this gives the appearance of normal typewritting. Justified text looks more formal and business like.

What is "direct mailing"?

The "Readers Digest" company is probably the best known user of direct mailing. Instead of sending a duplicated letter to all of their potential customers they "personalise" the letters by producing each one individually on a large computer system.

WORDCRAFT 20 has similar facilities that allow you to build up files of names, addresses and personal details so that you can write a standard letter that can be automatically personalised for all the recipients.

This is also extremely useful for producing labels for envelopes – so club secretaries would find it indispensible when circulating members with information about future meetings etc..

HARDWARE REQUIRED & INSTALLATION

The cartridge

WORDCRAFT 20 is supplied on a cartridge that plugs (label uppermost) into the slot at the rear of your VIC 20. The VIC 20 should be turned OFF while this is done. Whenever you turn ON the VIC 20 with the cartridge plugged in you will see the WORDCRAFT 20 start-up screen displayed. One of the options on this screen is to return to BASIC so you do not need to remove the cartridge if you merely wish to run BASIC.

For the technically minded the cartridge contains the WORDCRAFT 20 program in four 4k ROM chips plus 8k of additional RAM memory. This 8k is available for use in BASIC as well as when running WORDCRAFT 20.

The disk unit

The disk unit is connected, using the cable supplied with it, to the socket provided on the rear of the VIC 20.

The disk unit can be used for the storing of WORDCAFT 20 documents and is considerably faster and more convenient than tape.

The cassette unit

The cassette unit is connected to the flat edge connector on the rear of the VIC 20.

Like the disk unit it can be used for saving WORDCRAFT 20 documents. It does have certain disadvantages when compared with the disk unit, it is obviously slower and can only be used serially. Thus if you have more than one document on tape then WORDCRAFT 20 has to keep reading through the tape until it finds the one that you require.

Thus it makes sense to have a number of short tapes (C10) available for use with WORDCRAFT 20 – it is usually quicker for you to change tape rather than for WORDCRAFT 20 to search through long tapes containing large numbers of documents.

The printer

The VIC 1515 printer is attached either to the socket on the rear of the VIC 20 or to the socket on the rear of the disk unit if you have one.

Parallel printers (Centronics compatible types) can be connected to the user port on the rear of the VIC 20. (See Appendix B for cable details and for software to use this sort of printer from BASIC).

RS232C (Serial) printers can also be connected to the user port on the rear of the VIC 20. There may be some printers that will require the addition of an RS232C adapter to do this. (See Appendix B for cable details and for more information about adapters).

GETTING STARTED

The start-up screen

With the cartridge in its socket the VIC 20 should be turned on and the start-up screen will be displayed. The version of WORDCRAFT you are using will be shown at the top of the screen as:

WORDCRAFT MARK Vnn

where nn is the version number.

This screen is used to select the type of printer you are using, the storage device that documents will normally be saved to and loaded from, the type of memory you want BASIC to have when you finish with WORDCRAFT 20 and the position on the screen where the text is to appear.

When you first start you will see that the selections are:

VIC 1515 printer
Auto line feed
No form feed
Continuous stationery
Tape storage
Expanded memory

At the bottom of the screen you will see a list of function key possibilities:

F1 Start WORDCRAFT
F3 Return to BASIC
F5 Change value
F7 Next Value

Moving the screen image

The two cursor keys can be used to move the screen image up, down or left, right – use them to place the image in the centre of your screen.

The image can in fact be moved right off the screen and eventually back round again - each time a complete circuit is made in a horizontal direction the interlacing value used by the VIC chip is changed (the interlacing value can also be changed by pressing the leftward arrow key). Experiment with this until you find the best setting for your screen. Don't forget to take into account the fact that the WORDCRAFT 20 operating screen is 24 columns by 25 lines rather than 22 by 23. When you have found the best setting make a note of what you have done so that the next time you use WORDCRAFT 20 you will be able to set up the screen quickly.

WORDCRAFT 20 is set up so that for the majority of TVs no changes will be necessary.

Selecting printer attributes

The **change value** key will automatically change the value in the box with the reversed characters. The **next value** key will move on to the next box.

The possible printer types are:

VIC 1515 printer
Parallel printers
RS232C 110 baud
RS232C 300 baud
RS232C 1200 baud

Appendix B gives details on connecting different types of printer to the VIC 20.

Some printers have automatic line feed – whenever they receive a carriage return character (ASCII 13) they will also start a new line. Check in your printer manual and select either:

Auto
Non-auto

Some printers will do a form feed (move directly to the start of the next page) on receipt of a form feed character (ASCII 12)

Others do not have this feature. Check your printer manual and select either:

Yes
No

You may use continuous stationery (normally with sprocket holes on either side) or hand fed single sheets (letterheads etc) on your printer. WORDCRAFT 20 needs to know which you are using so that it can pause at the end of printing each page if you have to load another sheet. For continuous paper it does not have to pause. Select either:

Continuous
Hand-fed

Selecting storage device

WORDCRAFT 20 needs to know which device type you will normally use for the storage of documents (you can in fact change the device type later if you wish – see the chapter **WORDCRAFT commands**). Select either:

Tape
Disk

Exiting to BASIC

When you have finished with WORDCRAFT 20 you may wish to return to BASIC. You can choose to return with the extra 8k of memory on the WORDCRAFT 20 cartridge available to BASIC or without.

Some programs for the VIC 20 will not work with additional memory on the machine, other require it. You can therefore choose to return with:

Expanded
Unexpanded

If you have a motherboard for your VIC and you have a 3k RAM pack on it in addition to the WORDCRAFT 20 package, then when you return from WORDCRAFT 20 in unexpanded mode the 3k RAM will still be enabled. If you do not want the 3k RAM enabled but want to return to BASIC with only the normal VIC internal memory then you should choose the unexpanded option from WORDCRAFT 20 then enter the following line from BASIC when READY appears:

```
POKE 44,16: POKE 642,16: POKE 4096,0: NEW
```

followed by RETURN. You may now load and run programs intended for an unexpanded VIC.

The **Return to BASIC** key will cause the WORDCRAFT 20 screen to clear and the normal Commodore Basic screen to appear – you may then run (or write) other VIC 20 programs.

WARNING

Pressing the RESTORE key when running BASIC will cause the system to return to the WORDCRAFT 20 start up screen so you can switch in and out of WORDCRAFT 20 without having to switch the VIC on an off.

If you have pressed the RESTORE key by mistake then, providing you are running BASIC with expanded memory, you can return from WORDCRAFT 20 to BASIC (by pressing F3 after changing the RETURN TO BASIC option to "Expanded") and your program will still be intact.

Starting WORDCRAFT

The **Start WORDCRAFT** key will cause the start-up screen to disappear and the normal WORDCRAFT screen will appear. You are then ready to start entering text etc..

THE WORDCRAFT SCREEN

Screen layout

The WORDCRAFT 20 screen contains 25 lines of 24 characters – slightly larger than the normal VIC 20 screen. The bottom 22 lines are used for entering and editing text while the top three lines are used for displaying WORDCRAFT 20 information and for entering commands.

The top screen line normally contains a copyright notice but is also used for displaying error messages should you enter invalid commands or should there be problems with the disk unit or tape drive.

Line two shows which "mode" (see later) you are in, or it displays requests for certain information associated with certain WORDCRAFT 20 controls.

Page, line & column counts

Line two also contains the counts that allow you to see where you are in the text. The three values are:

The page currently displayed
The line the cursor is in
The column the cursor is in

(The cursor is the flashing square often visible somewhere on the screen).

Unused memory

On line two, just after the three counts, is another value showing the number of characters still unused in memory. Each time you type in a character of text or enter a control, this value will decrease. When the value gets low (less that 200 characters perhaps) you should think about saving your document on tape/disk. When the value reaches zero an error message will show you that you have run out of memory - you must save the document and start another before you can continue.

Line three

This line is used for two purposes depending on whether you are in **command mode** or in **type mode**. In command mode the cursor will be on this line waiting for you to enter a command. In type mode the cursor will be below this line and the line will show "the ruler", this shows the left and right hand margin indicators as well as the positions of any tabs stops that are set.

Changing screen colours

You may, if you wish, change the colours displayed on the screen. To do this at any time you press the CNTRL key together with a number.

CNTRL 1
This will complement all the colours on the screen – pressing it a second time will return to the original colours.

The CNTRLs 2-7 will increment the colours associated with certain areas on the screen. Holding down the keys will cause a slow repeat function to operate so that you can select the colour easily. The areas effected are:

CNTRL 2
The background (normally straw).

CNTRL 3
The message area (line 1 when set), the "erase block" area and the cursor (normally red).

CNTRL 4
The command input line and line 2 (normally dark blue)

CNTRL 5
The control indicator showing where controls have been entered (normally purple).

CNTRL 6
The border and ruler (normally cyan).

CNTRL 7
Text characters (normally dark blue).

CNTRL 8
This will restore all colour values to those existing when WORDCRAFT 20 was started.

So CNTRL 8 will put everything back to normal if you make a complete mess of the colours – after all, typing white text on a white background with a white border would be somewhat difficult!

Screen width

The number of characters displayed across the screen is 24. This does not mean that you are limited to producing documents that are only 24 characters wide. Don't forget that this screen is a window on your document – if you produce a document wider than 24 characters then the screen will automatically scroll to the right and left to allow you to see the text.

The maximum document width is 99 characters but WORDCRAFT 20 initially assumes you are using 75 characters wide – the right width for A4 stationery.

It has been found from experience that the best procedure to follow is to reduce the width of the screen window to 23 characters, enter your text and then reset the width to 75 immediately before printing. This has the advantage that you can see all your text on the screen without having to scroll. You can, of course, reset the width to whatever you wish at any time and then scroll left, right and up, down to check the final layout. The command to change width is described in the chapter **WORDCRAFT commands**.

YOUR FIRST DOCUMENT

This chapter is designed to lead you step by step through the production of your first document using WORDCRAFT 20. After you have worked through this chapter you should refer to the two subsequent chapters **WORDCRAFT commands** and **WORDCRAFT controls** for information about all the commands and controls that are available.

It is assumed that you have used the set-up screen and that the normal WORDCRAFT display is now on your screen.

TYPE mode

When the WORDCRAFT 20 screen is first displayed the cursor will be on line 2 waiting for a command to be entered. Before we start we will reduce the screen width so that we can see all of our text on the screen.

Type in the following from the keyboard:

w

now press the RETURN key. You have used your first WORDCRAFT command and reduced the document width to 23.

Now we are ready to start typing text so we must enter TYPE mode. To do this you should press the STOP key.

You will see the cursor move down to line four on the screen and the message "TYPE" will have appeared on line 2. Try pressing STOP again – what happens? Now press it again. You should now see how easy it is to change from TYPE mode to COMMAND mode and back again.

Entering text

Now you can use the keyboard just as if it were a typewriter – one main difference though – don't worry about line endings and "carriage returns" that you might have used on a typewriter, after all, you are now using a computer and it should be able to work out when it needs to start a new line without you having to keep your eye on the screen all the time!

If you can't think about what to type try copying the next paragraph.

Correcting a mistake

Don't worry if you make a mistake – if you hit the wrong key in error then just press the DEL key and see what happens – in fact try typing some text then holding the DEL key down - what happens? Useful isn't it?

Cursor movement

Now you have some text on the screen and you can see that WORDCRAFT 20 has automatically started new lines when it had to. The cursor should be sitting at the end of the text waiting for you to enter some more characters.

What happens if we wish to get somewhere in the text to correct a mistake or add some more text? You should be able to find the two CRSR keys, you will see that they have arrows on indicating right,left and down,up. Press the one with the sideways arrows on – you should see the cursor move to the right. Now press the SHIFT key at the same time as pressing this key – you should see the cursor move to the left. Try pressing SHIFT and the down,up CRSR key – the cursor should move upwards. Now press it without the SHIFT key – what happens?

Now you know how to "drive" the cursor around inside your text. Try it for a short while – have fun!

Deletions

Move the cursor over any character in your text and press the DEL key. That's how we remove characters we don't want. Again try holding it down to see what happens.

Insertions

On the same key as DEL you will see the letters INST standing for INSERT. Move the cursor anywhere in your text and press the SHIFT key as well as the INST key – you will see an underline character appear in the text – you can enter a new character here. This is how you insert characters that you may have forgotten to enter the first time through.

Trying holding down the SHIFT and INST keys to see what happens. If you open up a gap that is too big you can close it up by pressing the SHIFT key and the CBM key (the one with the Commodore logo on).

You should by now have worked out that the SHIFT key must be held down whenever you want the upper function on a key, so INST is the SHIFTed version of the INST/DEL key, CRSR up is the SHIFTED version of the CRSR down,up key. From now on this manual will assume that you understand when SHIFT should be used.

Top and bottom of page

Press the HOME key – that's how you get quickly to the top of the current page.

Press the CLR key – that's how you get to the bottom of the page ready to enter more text. (Did you remember to press SHIFT?)

Starting a new line

You may wish to force WORDCRAFT 20 to start a new line, for example at the end of a paragraph. To do this you should press the F7 function key (the function keys are to the right of the main keyboard - the even numbered function keys require SHIFT to be pressed whenever they are used). If you want to leave a blank line then repeating this operation will cause a blank line to be left on the screen.

Starting a new page

Sometimes you may wish to start a new page in a document – normally WORDCRAFT 20 will look after page endings for you just as it looks after line endings. You can, however, force WORDCRAFT 20 to start a new page.

Move the cursor anywhere in the text then press the F8 function key. What happens?

WORDCRAFT 20 has now taken all the text after the cursor and placed it on a new page. You can get back to the previous page by pressing the CRSR up key.

COMMAND mode

Before we go any further we will tidy things up. Press STOP to get back to command mode.

Now enter the command

n

followed by return. A message indicating that you have not saved the document will appear on line one. This is a safety precaution so that you do not unintentionally loose text.

Press the SPACE bar and the screen will clear – the "n" command indicates that you are starting the "new" document so the screen is cleared ready for new text to be entered.

Go back into TYPE mode and enter some text of your own. Try copying part of a favourite book, or a magazine article or write a letter to a friend.

Printing the document

When you have entered your text (and corrected it!) you may wish to print it out. Make sure that your printer is connected correctly and that it is switched on. Obviously

you must have paper ready mounted in the printer so that WORDCRAFT 20 can print on to it.

Go into COMMAND mode and enter the command:

p

followed by pressing RETURN. When the messsage appears on line one you should press the SPACE bar to print the document out. If you have typed in more than one page and you are using hand fed stationery then WORDCRAFT 20 will pause between pages for you to mount more paper. You must press the SPACE bar to continue printing.

Saving the document

The document has now been written and printed but you may wish to save it for another day. To do this it must be filed to tape or disk.

From COMMAND mode enter the command:

s,name

where "name" is the name you want the document called. The name can be up to 12 characters long, all of which must be alphabetic or numeric. One example might be:

s,firstdoc

so the document will be saved with the name "firstdoc".

If you are using disk the activity light will come on and in a few seconds a message will tell you that the document has been saved.

If you are using tape a message will tell you to press record and play and when you have done this the word "ok" will be displayed on line one of the screen. Again a confirmation message will be displayed when the document has been saved.

Starting a new document

After the confirmation message press SPACE to return to normal COMMAND mode. Enter:

n

followed by RETURN to clear the screen ready to start a new document.

Loading a document

To retrieve the document you have saved you should enter the command:

g,name

(standing for "get").

The name should be the same as that you used when you saved the document. On disk the document will be immediately loaded while on tape you will have to press play on the tape recorder.

After loading the document WORDCRAFT 20 will display it and will be in COMMAND mode ready for your next command.

Your have now seen how to enter a new document, edit it, print it, save it and retrieve it so you should know enough to start using WORDCRAFT 20 seriously. The following two chapters will tell you about all of the commands and controls you can use in WORDCRAFT 20 but before reading them it might be a good idea to write and print one or two more documents just to practice what you have learnt so far.

WORDCRAFT COMMANDS

WORDCRAFT commands are all given when in COMMAND mode. Pressing the STOP key will move from TYPE mode to COMMAND mode and back again. The commands are entered on line 3 of the screen and must all be followed by pressing the RETURN key.

WORDCRAFT 20 uses the top line of the screen for confirmation and error messages. Occasionally you will have to press the SPACE bar to continue processing, for example between printing pages on hand fed stationery or after saving a document.

If you issue a command that will clear the current text from memory WORDCRAFT 20 will issue a "NOT SAVED - PRESS STOP" message. If you press STOP then all the text will remain intact and you may then save it to disk. If you do not wish to save the text then pressing SPACE will continue processing and the text will be cleared.

Starting a new document

n

This command is entered on its own and has the effect of clearing memory of any document currently displayed. If the document has not been saved to disk/tape then a warning message is given. Pressing SPACE after the warning will clear memory; pressing STOP will leave the document intact so that it may be saved before starting a new one.

Saving a document

s,name

This command will save the document currently in memory to tape or disk. If it is being saved to tape then a message will appear warning you to prepare the tape unit. You must then press SPACE for the save to take place.

If you attempt to save a document with a name identical to another document on disk then WORDCRAFT 20 will refuse to save it. See the next command.

Replacing a document

r,name

This is identical to the "s,name" command except that the document already existing on disk will be replaced by this new version.

Loading a document

g,name

This will load the named document from tape/disk into memory. For tape a warning message will be displayed so that you can prepare the unit before the load takes place.

The disk directory

This is merely a list of all the files on a disk together with their sizes in disk "blocks". The disk name and identifier are given in the first line and the number of disk blocks free is given at the very end of the list.

$

This command is entered on its own and will cause the directory of the disk unit to be displayed on the screen. If the directory takes up more than one screen then you will have to press SPACE in between screens.

Validating a disk

v,drivenumber

This will check the contents of a disk and will "tidy up" any areas of unused space so that the maximum amount of free space is made available for storing documents. The process will take a few minutes.

If you have a disk that appears to be giving problems then it is recommended that you use this command before continuing.

If you only have one disk unit attached to your VIC 20 then the "drivenumber" parameter may be omitted.

Changing storage device

c or

d or

d,drivenumber

"c" will change the storage device to cassette while "d" will change it to disk and carry out an initialisation sequence - so you must have a diskette in the drive before you do this. If you have more than one disk unit attached to your VIC 20 then the optional parameter "drivenumber" is used to select a particular drive.

For example

d,1 followed by RETURN

would change the storage device to disk and would select drive 1.

Setting the screen width

w,nn

This will set the screen width to the number of characters specified. "nn" may be a number between 3 and 99.

If "w" is entered on its own then WORDCRAFT 20 will assume a width of 23 if the previous width was greater than 23. If the previous width was less than 23 then WORDCRAFT 20 will assume the last width greater than 23 set (ie 75 if this hasn't been changed). This is a quick way of entering text with a narrow screen window and then opening it up again just before printing.

Note that the width value is saved with the document and will therefore be reset when a document is loaded.

Setting the page length

l,nn (nb letter "l" for "length")

This will change the page length to the number of lines specified. "nn" may be a number between 1 and 60. WORDCRAFT 20 assumes 55 lines are normally required as suitable for A4 paper.

The letter "l" on its own will give the default value of 55.

The length value is saved with the document and will therefore be reset when the document is loaded.

Keyboard beeper control

b

This command will cause the short "beep" associated with each keystroke to be turned off. Entering the command a second time will turn the beep on.

Coded output for security purposes

You may have your text files written to tape or disk in encrypted form so that no other WORDCRAFT 20 user will be able to read your files without knowing the special keyword you used when you saved the text.

Before you produce a coded file you should use the command

e,keyword

where "keyword" is any character string you want. The keyword may be up to 16 characters long and will be used for every save and get operation from then onwards. If you no longer wish to use the coding facility then you may turn it off by giving the command

e

with no keyword. Once you have saved a file using a keyword then it can only be read back after the same keyword has been specified in a "e" command.

It is your responsibility to remember your own keywords!

Printing a document

p,pages,type,copies

This will print the current document to the printer. "pages" may contain a range of pages to be printed, eg. "3-4" to print page three to four. "type" may be "b" for bold printing of highlit areas (see highlight control) rather than underlining. "copies" is the number of copies of the document required. Example:

p,6-9,b,4

would print four copies of pages 4 to 8 with highlit areas printed in bold.

p

Given alone this will print one copy of all the pages in memory with highlit areas underlined.

p,,,4

This will print four copies of all pages in memory with highlit areas underlined. Note that commas are used to show parameters that have been left out or "defaulted".

Pressing STOP when printing will cause the print to be abandoned completely.

Pressing CLR will abandon the current page and printing will continue on the next page – for hand fed stationery you will have to press SPACE to continue.

Pressing HOME will cause the current page to be abandoned and then restarted. Again you may have to press SPACE to continue.

Sending ASCII values to printers

a,values

where "values" contains one or more ASCII values to be sent immediately to the printer. The values sent must be in the range 0 to 254. For example:

a,27,56

would be used to send "ESCAPE 8" to an Oki Microline 83 to set it for 8 lines per inch printing.

a,32-127,13,10

would send all the ASCII values from 32 to 127 to the printer – a good way to test the character set! The 13,10 at the end will send carriage-return, line-feed.

Physical page length

",nn,stationery type

This command sets the physical length of the paper in the printer and defines whether the stationery in use is continuous "c" or hand fed "h". It is not needed if the printer uses "form feed" to skip to the top of the next page, otherwise the length is required so that WORDCRAFT 20 knows how many lines to skip in between pages. WORDCRAFT 20 normally assumes the value to be 66 which is correct for printing on A4 paper at 6 line to the inch vertically.

Example:

",10,c

might be used to set the physical length to 10 lines for printing on labels in continuous form.

Once the " command has been used, form feeds are no longer sent to the printer, line feeds are used instead.

The number of lines of text that are printed on the page is determined by the "l" command discussed above.

Justifying text

j,n or

j,y

This will turn justification off (j,n) or turn justification on (j,y). Justification is explained in the **Introduction**.

"Filling" a document

f,name,pages

This will fill the specially indicated positions (see "fill points" in the next chapter) within the current document with lines from the specified pages of the document named in the command. Example:

f,addresses,1-5,7,9,24-30

will fill the document from the information of pages 1 to 5, 7, 9 and 24 to 30 of document "addresses". (The page numbers do not need to be in ascending order if disk is used). As each fill takes place a message will be displayed so that you can press space to have the filled document printed out.

If you are using cassette then the pages specified must be in ascending order as WORDCRAFT 20 cannot rewind the tape once it has passed over a particular page.

The chapter **Fill documents** will give you more information on this technique.

Merging pages

m,name,pages

This will take the pages indicated from the document named in the command and will place them at the position last occupied by the cursor when it was in TYPE mode.

Each page brought in will have its "new page" indicator removed and a "skip 1" substituted. This means that each page will appear as a paragraph when it is brought in.

At the end of the merge the cursor will be displayed at the end of the last item merged in. Example:

m,stdparas,3-6,8

would merge in pages 3 to 6 and page 8 from the document called "stdparas". The pages may be specified in any order.

If you are using cassette then the pages must be specified in ascending order.

Merging can be viewed as a powerful extension of the "block move" facility in WORDCRAFT 20 as it allows whole sections of text to be moved from one document to another.

The chapter **Standard documents** explains more about this technique.

WORDCRAFT CONTROLS

The Commodore key

WORDCRAFT controls are entered when you are in TYPE mode. Each control is preceded by pressing and releasing the CBM key (The one with the Commodore logo on it to the lower left of the keyboard).

For example the keys pressed to skip four lines would be:

CBM + 4

three key depression one after the other.

The actual control keys may be used in SHIFTed or unSHIFTed mode, so ";" could be used instead of "+".

The existence of a control is shown by a character being shown in reverse video – methods of identifying the controls are explained later in this chapter.

Starting a new line

RETURN

This will force WORDCRAFT 20 to start a new line even if it has not run out of screen width. If this is used at the start of a line that is already a forced new line then the line will be moved further down causing a "skip" to take place. (see below).

Function key 7 gives the same result.

Skipping lines

+ n

This will cause a skip of "n" lines. The value may be between 1 and 9. To get a skip longer than 9 lines then the instruction may be repeated.

Starting a new page

HOME

This will force WORDCRAFT 20 to start a new page.

Function key 8 gives the same result.

Deleting words

d

This will delete the word currently under the cursor. The cursor may be on any character in the word.

Function key 1 gives the same result.

Deleting lines

DEL

This will delete all of a line from the current position of the cursor to the end of the line. Text from the next line down may then "wrap up" to fill the space available.

Function key 2 gives the same result.

Deleting blocks

This is a special form of command and the procedure will be explained in detail.

Move the cursor to the first character in the block to be deleted and then press:

CBM e

The message "BLKEND?" will appear on line 2 and you should now move the cursor to the character after the end of the block you wish to delete then press:

SHIFT CBM

(press SHIFT, then, keeping it pressed, press CBM).

The block will be highlit and a message will be displayed so that you will have to press the "y" key to confirm that you want the text deleted. Pressing the "n" key will cancel the deletion.

Inserting blocks

INST

This will open a block of underlines indicating where you can enter new text. Function key 3 has the same effect.

Press SHIFT CBM to close up the block when you have finished entering text. Function key 4 has the same effect.

If you enter more text than there are underlines then more space will automatically be opened up for you unless you have used another control in the meanwhile.

Moving blocks

This allows you to take a block of text from one part of the document in memory and place it in another position.

Place the cursor at the beginning of the block to be moved and press:

CBM m

The message "BLKEND?" will be displayed and you should move the cursor to the character after the end of the block and press SHIFT CBM.

The message "BLKPSN?" will now ask you to identify the new position for the block so you should move the cursor where you wish the block to go and then press SHIFT CBM again. After a few seconds you will see that the block has been moved.

Reproducing blocks

This is identical to the block move control except that the command is:

CBM r

and the block will be reproduced in the new position as a copy of the text remaining in the original position.

Centering text

=

Placing this control ~~at the beginning of~~ anywhere in a line will cause the text in that line to be centered. This is useful for paragraph heading etc.

Setting margins

Margins and tabs stops are set from the ruler. To gain access to the ruler you should press:

CBM #

The message RULER will be displayed and you may now move the cursor left or right to any position you wish.

To set the position of the left margin you should move the cursor to the correct column (watch the column indicator on line 2) and then press the "<" key. For the right margin do the same but use the ">" key.

WORDCRAFT 20 will now start new lines at this new left hand margin and will end a line at the new right hand margin.

You should leave the RULER by pressing the CBM key

Setting tab stops

Enter the RULER as explained above. Now you may set tab stops (as on a typewriter) by moving the cursor to the correct column and pressing the ↑ (upward arrow) key.

Tab stops may be removed by entering the RULER and placing the cursor under the position of the unwanted tab and pressing ← (leftward arrow) key.

All tabs may be removed by pressing the / key.

Leave the RULER by pressing the CBM key.

Using normal tabs

You may use the tabs set in the RULER at any time by pressing :

CBM t

this will cause the cursor to jump across to the next tab position ready for you to enter text.

Function key 5 has the same effect.

Using decimal tabs

If you are entering numeric text and you want the decimal points in each column to line up on the tab position then you may use the decimal tab feature. To jump to a tab for decimal alignment you should enter:

CBM .

then enter the number (with or without a decimal point). WORDCRAFT 20 will automatically shift the number left or right to ensure that the decimal point will be in the correct position.

Function key 6 has the same effect.

Indentation

You may wish to indent text from the left hand side of the page. This means that new lines will commence in from the edge rather than at the left hand margin. You could of course change the left hand margin each time you wished to do this but indentation is usually quicker.

Set tab stops (using the RULER) at the positions to which you wish to indent. To start indentation enter:

CBM [

The cursor will jump to the first tab stop and the [symbol will appear on the ruler. You may then carry on entering text and you will see it start new lines at the indentation position.

To end indentation you should force a new line and enter:

CBM]

The cursor will now return to the normal left hand margin position.

It is possible indent at several levels, each [will cause WORDCRAFT 20 to assume the indentation is to take effect at the next tab stop.

Entering] will always cause WORDCRAFT 20 to return to the left hand margin.

Highlighting text

At print time you may want some text to stand out, either by having it underlined or by having each character printed several times. You may indicate such text by entering:

CBM (

on the first character to be highlit and:

CBM)

after the last character to be highlit.

Non printing text

It is possible to have text on the screen that will not be printed. This is useful for printing on pre-printed stationery or for providing "prompts" for the typist. Enter:

CBM ? @

anywhere in the line not to be printed.

Soft hyphens

The normal hyphen "-" will always be printed out if entered in the text. Sometimes it is better to use a "soft" hyphen rather than a hard one. Such a hyphen will **only** be printed if WORDCRAFT 20 has to split the word containing it. If the word containing it appears in the middle of a line then it will not be printed. The soft hyphen in entered on the character where the split is to take place:

CBM -

For example to split the word WORDCRAFT before the letter "C" the cursor should be placed over the "C" and then CBM - pressed. The soft hyphen, like any other control, may be entered as you are typing in new text – it is not necessary to type the word first and then go back to enter the control.

Search and exchange

WORDCRAFT 20 can be used to search for particular strings of characters within your text. Place the cursor at the position from which you wish the search to start and enter:

CBM s

The cursor will move to line 3 and you may then enter the string that you wish to search for. The string must be preceded and followed by a "delimiter", ie a character not itself in the string. So:

-Kansas-

would search for the word "Kansas".

To find the next occurrence of the same string without having to enter the string in full again, you should place the cursor after the beginning of the string (for example to the letter "a" in Kansas) and enter:

CBM s-- (or CBM sss)

Since you have not entered a new search string WORDCRAFT 20 will assume that you wish to use the previous one.

If you want to exchange a string found after a search you should now enter:

CBM x

(to exchange only this single occurrence of the string) or

CBM z

(to replace all occurrences of this string).

Now you should enter the new string on line 3. So:

-New York State-

would now replace all occurrences of "Kansas" with "New York State" if it followed a CBM z control.

Should you make a mistake then you must repeat the sequence Search followed by Exchange.

Fill points

These are used as position indicators for the Fill Command. (see **WORDCRAFT Commands**). Each line on the fill file is associated with a letter of the alphabet, so line one is "A", line two is "B" etc.

The positions that these lines are to occupy in the document are indicated by pressing:

CBM ? letter

where "letter" is the letter associated with the line. These will appear on the screen as a reverse video tick followed by the letter.

One line in the fill file may appear several times in the document, eg.

CBM ? B

can be placed in several positions within the text and the second line in the fill file will be substituted for it in each case.

Deleting unwanted controls

Placing the cursor anywhere in a line of text and pressing:

CBM c

will cause the existence of any controls on that line to be displayed at the top of the screen. Line controls (ruler changes, skips, forced new lines, forced new pages etc.) show in place of the TYPE mode message. Controls embedded within the text (soft hyphens, highlight on, highlight off etc.) show in their column position instead of the ruler line. The symbols used are listed in delete the reference to Appendix C

To delete a control place the cursor anywhere in front of the character associated with the control (on the same line though) and press:

CBM n type

where "type" is the control you wish to remove, ie the key you would normally use to create the control. So:

CBM n (

would remove a highlighting on control.

CBM n HOME or
CBM function key 8

would remove a forced new page control.

Note that CBM n RETURN (or CBM n F7) will reduce a skip count by one.

Moving between pages

It is often necessary to move from one page to another. Simply moving the cursor up or down will cause you to move backwards and forwards through the text (jumping to the start or end of adjacent pages as necessary) but there are quicker ways of getting to particular positions:

CBM p HOME
To jump to the beginning of the first page of text.

CBM p CLR
To jump to the foot of the last page of text

CBM p n
To jump to the page indicated by "n" where "n" is in the range 1 to 9.

CBM p (nn)
To jump to the page "nn" where "nn" is in the range 1 to 99.

Scrolling the screen

If the page width is wider than 23 columns then WORDCRAFT 20 will automatically scroll left and right as you enter text so that you can see exactly what you are doing.

You can, however, make the screen pan left/right or up/down by entering:

CBM CRSR left
CBM CRSR right
CBM CRSR up
CBM CRSR down

You may stop the screen moving at any time by pressing any key (for example the STOP key).

THE FUNCTION KEYS

For convenience some of the most frequently used WORDCRAFT 20 controls may be entered merely by pressing a function key. These keys are to the right of the keyboard and the even number functions require the use of the SHIFT key as well as the function key itself.

The keys are used as follows:

F1 Delete word
This is the equivalent of the CBM d control to delete the word under the cursor.

F2 Delete line
This is the equivalent of the CBM DEL control to delete the line from the position of the cursor.

F3 Insert on
This is the equivalent of the CBM INST control to open up an insertion space.

F4 Insert off
This is the equivalent of the SHIFT CBM used to close up an insertion space.

F5 Normal tab
This is the equivalent of the CBM t control to tab to the next tab stop.

F6 Decimal tab
This is the equivalent of the CBM . control to tab to the next tab stop.

F7 New line
This is the equivalent of the CBM RETURN control to force WORDCRAFT 20 to start a new line.

F8 New page
This is the equivalent of the CBM HOME control to force WORDCRAFT 20 to start a new page.

Function keys 5 to 8 can also be entered after the CBM n control used to delete unwanted controls. For example:

CBM n F7

removes a forced new line (or reduces a skip by one).

FILL DOCUMENTS

Many people will find the "direct mailing" facilities offered by WORDCRAFT 20 extremely useful. Small businesses, clubs, schools etc all have occasion to send information to customers, members, staff or pupils. This process if made extremely straightforward if files of names and addresses can be built up and these files used to produce individual letters and labels.

We will take as an example a club secretary who wishes to keep a name and address file of his members and then to use this file to compile a membership list and to produce individual membership cards.

An address file

Before we can start to build the file we need to know what information we wish to keep. Our club secretary may well wish to keep the following:

Surname
Forename
Initials
Address
Telephone number
Date of joining

So each member will have six different items of information held on the file.

Now we can start to build the file. Firstly we start a new document (using the "n" command) then we type in the first surname. At the end of this we type in:

CBM &

this tells WORDCRAFT 20 that this is the end of the first item. A horizontal bar on the screen will show where each item of information ends. Now we enter the forename and again press CBM &. This is repeated for the initials.

Now we type in the address – it does not matter that the address may take up several lines because WORDCRAFT 20 will treat everything between two sets of CBM &s as a separate item of information.

The process is repeated until we have entered all the information for the first member.

To start a new member we simply start a new page (CBM HOME) and off we go again. In this way a complete file of members is built up.

If there is insufficient memory in the computer for all the members then the file is saved and another file started for the remainder.

Eventually all the information is entered and all the membership details are saved on file.

The empty document

Now we come to the first document that the secretary wishes to produce - the membership list.

Perhaps the list is required to show only the name and address of each member. The name is made up of the initials and the surname, thus the third item and the first item are required along with fourth item, the address.

Each item is in fact known by a letter of the alphabet so we require items C, A and D. To produce the membership list the secretary starts a new document, enters TYPE mode and types in:

CBM c CBM a,
CBM d

and returns to COMMAND mode.

Before filling in the document we must now decide how it is to be printed. We do not

want each member to take a full sheet of paper so we say that the maximum text length will be 6 line – this allows for one line for the name and a maximum of five lines for the address. This is set with the l,6 command.

Now we must tell WORDCRAFT 20 that it is not to skip to the top of a new page at the end of each member. This is done with the ",7 command telling WORDCRAFT 20 that each page (or members details) will take up 7 physical lines of paper – thus we are sure of at least one blank line between members details.

Now we are ready to fill in the document.

f,members,1-20

is the command to fill in the document from the details of the first 20 pages of the file called "members". As each sheet is ready we can press space to print it out.

Now that the membership list is printed the secretary wants to do the membership cards. Again he starts a new document and this time enters:

HICKSVILLE SOCIAL CLUB

MEMBERSHIP CARD

Name: CBM c CBM a **First name:** CBM b
Address:
CBM d

Telephone: CBM e
Date joined: CBM f

You will see that the fill points A to F have been mixed in with the normal text. This document would normally then be saved so that it could be used on future occasions.

From command mode the print is set up as l,15 and ",22 so that three cards will be produced on each A4 sheet of paper (A4 has 66 lines of text at 6 lines to the inch vertically).

The cards are then printed with the command:

f,members,1-20

as before.

An important point to notice is that not all the items of information need to be printed out in the document. Thus the file could contain information that is used only for reference and may never be printed out.

When filling the document it is possible to select those members whose details are to be printed. If, for example, members 12 and 17 had lost their membership cards then new ones could be produced by loading the membership card document and filling it in as follows:

f,members,12,17

STANDARD DOCUMENTS

Standard documents are those that are made up of a skeleton of text to which is added further text from a file of standard paragraphs.

A lawyer, for example, might wish to file away all the standard paragraphs of legal gobbledegook that make up a standard partnership contract. He may then wish to produce such a partnership agreement for a particular group of clients. It would be ideal if he could simply say to his secretary:

"Please produce a partnership agreement for John Doe and Joe Bloggs using standard paragraphs 1 to 20, 24 to 30, and 47. Date it to take effect from 14th January 1984."

Using WORDCRAFT 20 this is extremely easy to do.

Standard paragraphs

Each paragraph that forms the standard paragraph file is in fact a separate page in a document. Any document can be a standard paragraph file so no special commands are required.

Each page (including the first one) should start with a new page code (Function key F8) – this ensures that WORDCRAFT 20 places a space line between each selected paragraph.

In the case of our lawyer he will have had his secretary produce his master file of standard paragraphs for partnership agreements. This is now saved away on disk ready to be used at any time.

The "skeleton" document

The outline partnership agreement has already been typed in and is also saved on disk – perhaps it looks like this:

It is hereby agreed on this date of ..... that we ..... and ..... do formally enter into the partnership agreement detailed below.

Signed: .....

Signed: .....

On receipt of the lawyer's instructions the secretary loads this document:

g,partners

goes into TYPE mode and fills in the names of the partners and the date.

The cursor is then placed in the middle of the document, after ... agreement detailed below:... and then STOP pressed to return to COMMAND mode.

Now the command:

m,partnerparas,1-20,24-30,47

is entered to merge in the correct paragraphs from the file of standard partnership paragraphs. The pages can be specified in any order for disk but must be in ascending order if merging from tape. The pages/paragraphs are brought in from disk/tape and placed in the position last occupied by the cursor when in TYPE mode. Now the document is complete and can be printed out with the p command.

This whole process takes about two minutes but the final document may itself be quite long and complex. Obviously no detailed checking is now required as the original paragraphs will have been checked when they were first entered into the file.

Obviously there are many uses for standard paragraphs and for merging outside the legal profession but the principle of merging pages from one document into another remains the same.

APPENDIX A

WORDCRAFT COMMANDS

a,values ..... send ASCII values to printer
b ..... beep on or off
c ..... change storage device to cassette
d,drivenumber ..... change storage device to disk drive number optional
e,keyword ..... encrypt output using keyword
f,name,pages ..... fill from file "name" using specified pages
g,name ..... load file named "name"
j,y or j,n ..... justification yes or no
l,nn ..... set page length
m,name,pages ..... merge from file "name" using specified pages
n ..... start a new document
p,pages,type,copies ... print copies of pages specified, bold or underlined
r,name ..... replace file "name" with current text
s,name ..... save current text as file "name"
v,drivenumber ..... validate disk, drive number optional
w,nn ..... set page width
$ ..... examine disk directory
$,end ..... end WORDCRAFT session
",nn,type ..... set physical page length and stationery type

WORDCRAFT CONTROLS

(All preceded by pressing the CBM key)

c ..... examine controls on a line
d (F1) ..... delete word under cursor
e ..... erase block
m ..... move block
n ..... cancel control
p ..... move from one page to another
r ..... reproduce block
s ..... search
t (F5) ..... normal tab
z ..... exchange all strings found for new string specified
(..... start highlighting
) ..... end highlighting
[..... start indent
] ..... end indent
..... enter ruler
.(full stop) (F6) ..... decimal tab
+ ..... skip
RETURN (F7) ..... start new line
DEL (F2) ..... Delete line from cursor
INST (F3) ..... open up insert space
HOME (F8) ..... start new page

APPENDIX B

Parallel printers

Parallel printers are normally designed to work with Centronics compatible computer output ports. The user port on the VIC 20 can be made to look like a Centronics port and the WORDCRAFT 20 software has been designed to drive such a printer.

The pin-out shown below should work with most parallel printers providing a suitable cable is made up.

VIC	PIN	PIN	Printer
CB1	B	10	ACKNLG
PB0	C	2	DATA 1
PB1	D	3	DATA 2
PB2	E	4	DATA 3
PB3	F	5	DATA 4
PB4	H	6	DATA 5
PB5	J	7	DATA 6
PB6	K	8	DATA 7
PB7	L	9	DATA 8
CB2	M	1	STROBE
GND	N	16	GROUND

The cable can be used to print to such a printer from a normal BASIC program. The code required would be:

```
5   REGB=37136:DDRB=37138:PCR=37148:IR=37149
10  GOSUB 100 : REM *** SET UP THE USER PORT ***
20  REM *** NORMAL CODE WOULD GO HERE ***
30  REM *** ROUTINE 200 USED TO SEND ASCII VALUE ***
40  REM *** HELD IN VARIABLE A ***
50  :
100  POKE DDRB,255: REM *** OUTPUT LINES ***
110  POKE PCR,(PEEK(PCR) AND 15 OR 224)
120  REM *** SET CB1 FOR HIGH TO LOW TRANSITION ***
130  REM *** START OFF WITH CB2 SET HIGH ***
140  RETURN
197  :
198  REM *** SEND BYTE TO PARALLEL PRINTER ***
199  :
200  POKE REGB,A
210  POKE PCR,(PEEK(PCR) AND 223): REM *** LOWER CB2 ***
```



```
220  POKE PCR,(PEEK(PCR) OR 32): REM *** RAISE CB2 ***
230  IF (PEEK(IR) AND 16) <> 16 THEN 230: REM *** WAIT ON CB1 ***
240  RETURN
```

This will be a fairly slow procedure as the program will have to break down each string that is to be sent into its individual ASCII values before calling routine 200 to send the data over the user port. It would therefore make sense to produce a machine code routine that took the contents of a string variable and sent it byte by byte over the user port.

RS232C serial printers

Printers that use standard RS232C connectors may be used on the VIC providing that a suitable adaptor is first connected to the user port. In the UK such an adaptor is available from Stack Computer Services Limited, 290-298 Derby Road, Bootle, Liverpool 20. (Telephone 051-933-551).

The WORDCRAFT 20 start up screen allows you to select one of twelve RS232C printer types:

RS232/110/s	RS232/110/m	RS232/110/o	RS232/110/e
RS232/300/s	RS232/300/m	RS232/300/o	RS232/300/e
RS232/1200/s	RS232/1200/m	RS232/1200/o	RS232/1200/s

The printer should be set at one of three speeds, 110 baud, 300 baud or 1200 baud. (Your printer manual will probably tell you how this is done). It is assumed that 110 baud printers have no way of "holding off" the computer while they are doing a carriage return. WORDCRAFT 20 therefore pauses for about half a second after sending a carriage return on 110 baud printers. For each speed you will have to select the type of parity expected by the printer.

"s" stands for "space" meaning that the top bit in each byte sent to the printer will be set to zero.

"m" stands for "mark" meaning that the top bit in each byte sent to the printer will be set to one.

"o" stands for "odd" meaning that the top bit in each byte sent to the printer will be set for odd parity.

"e" stands for "even" meaning that the top bit in each byte sent to the printer will be set for even parity.

Again the printer manual should tell you the type of parity expected by your printer. In fact many printers will give you a choice of parity types so you may select whichever you want.

Information on using RS232C printers from normal BASIC programs will probably have been provided with your RS232C adaptor. The book "VIC REVEALED" by Nick Hampshire Publications contains a full description of the RS232C port on the VIC and how to drive it from BASIC programs.

APPENDIX C

Reading VIC files on CBMs

The format of the files kept by WORDCRAFT 20 are slightly different from those kept by WORDCRAFT 80. It is therefore necessary to run a conversion program on larger CBM machines before a WORDCRAFT 20 file can be read by WORDCRAFT 80.

The program is listed below and is also available on the cassette of WORDCRAFT documents. It should either be loaded from tape into the CBM computer or typed in from the keyboard. The program is self explanatory and can be used for both tape and disk files. Disk files can only be transfered if the CBM computer has a 2040/3040/4040 disk unit. If a different type of disk unit is in use then the file should be transfered using tape.

```
WORDCRAFT 20 (VIC) TO WORDCRAFT 80 (CBM) CONVERSION PROGRAM

 5 REM *** PROGRAM TO CONVERT WORDCRAFT 20 VIC FILE TO WORDCRAFT 80 PET FORMAT
 6 :
 10 NU$=CHR$(0):NU$=NU$+NU$+NU$+NU$+NU$:NU$=NU$+NU$+NU$+NU$
 20 SP$="                ":POKE59468,14
 30 PRINT"(CLR)"TAB(18)"(RVS)WORDCRAFT VIC TO PET FILE CONVERSION PROGRAM(CUD)"
 40 INPUT"WHAT IS THE VIC FILENAME";V$
 50 INPUT"(CUD)IS IT ON (RVS)C(RVO)ASSETTE OR (RVS)D(RVO)ISK";G$:IFG$<>"C"ANDG$<>"D"THEN50
 60 INPUT"(CUD)WHICH DRIVE IS IT ON";D:IFG$="C"AND(D<1ORD>2)THEN60
 70 IFG$="D"AND(D<0ORD>1)THEN60
 75 INPUT"(CUD)WHAT IS THE PET FILENAME";P$
 80 DR=0:IFG$="D"ANDD=0THENDR=1
 90 PRINT"(CUD)PUT THE PET DISK ON DRIVE"DR"AND PRESS (RVS)SPACE(RVO) WHEN READY"
 100 GETA$:IFA$<>" "THEN100
 110 V$=LEFT$(V$+"              ",12)+".001"
 115 P$=LEFT$(P$+"              ",12)+".001"
 120 IFG$="C"THENOPEN1,D,0,V$:GOTO140
 130 DOPEN#1,(V$),D(D):GOSUB1000
 140 SCRATCHD(DR),(P$):DOPEN#2,(P$),W,D(DR):GOSUB1000
 145 PRINT"(CUD)(RVS)PLEASE WAIT WHILE THE FILE IS CONVERTED."
 147 :
 148 REM *** COPY ACROSS THE TEXT FILE AS CHAPTER 1 ***
 149 :
 150 P=0:S=0:GOSUB8000:AA=A
 160 GOSUB8000:PL=A:GOSUB8000:PW=A+3
 162 IFG$="D"THENFORI=1TO233:GOSUB8000:NEXT
 170 FORI=1TO236:PRINT#2,CHR$(96);:NEXT
 180 IFAA=1ANDC$="D"THENGOSUB8000
 182 GOSUB8000:PRINT#2,A$;:L=A:GOSUB8000:PRINT#2,A$;:L=256*A+L:IFL=0THEN200
 184 IFAA=1ANDC$="D"THENGOSUB8000
 190 P=P+1:S=S+L:FORI=1TOL:GOSUB8000:PRINT#2,A$;:NEXT:GOTO180
 200 CLOSE1:DCLOSE:GOSUB1000
 207 :
 208 REM *** NOW PRODUCE A WORDCRAFT 80 INDEX FILE ***
 209 :
 210 P$=LEFT$(P$,15)+"0":SCRATCHD(DR),(P$):DOPEN#2,(P$),W,D(DR):GOSUB1000
 220 PRINT#2,CHR$(PL);CHR$(PW);LEFT$(NU$,8);SP$;CHR$(0);"01";LEFT$(SP$,15);
 230 PRINT#2,CHR$(1);CHR$(1);CHR$(1);NU$;NU$;NU$;NU$;NU$;NU$;LEFT$(NU$,2);
 240 PRINT#2,CHR$(1);NU$;NU$;NU$;NU$;NU$;NU$;LEFT$(NU$,2);
 250 PRINT#2,CHR$(P);NU$;NU$;NU$;NU$;NU$;NU$;LEFT$(NU$,2);
 260 PRINT#2,CHR$(S-256*INT(S/256));NU$;NU$;NU$;NU$;NU$;NU$;LEFT$(NU$,2);
 270 PRINT#2,CHR$(INT(S/256));NU$;NU$;NU$;NU$;NU$;NU$;LEFT$(NU$,2);
 280 DCLOSE:GOSUB1000
 290 PRINT"(CUD)(RVS)DOCUMENT "V$" CONVERTED TO WORDCRAFT 80 FORMAT FOR PET."
 300 INPUT"(CUD)ANYMORE";A$:IFLEFT$(A$,1)="Y"THEN30
 310 END
 997 :
 998 REM *** CHECK DISK STATUS ***
 999 :
 1000 IFDS=0THENRETURN
 1010 PRINT"(CUD)(RVS)DISK ERROR "DS$:CLOSE1:DCLOSE:STOP
 7997 :
 7998 REM *** READ A BYTE FROM VIC FILE ***
 7999 :
 8000 GET#1,A$:IFA$=""THENA$=CHR$(0)
 8020 A=ASC(A$):RETURN
```